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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,550	03/13/2002	Takashi Gojobori	033808-282106	6662

38327 7590 04/06/2005

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EXAMINER
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LIN, JERRY

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/088,550		GOJOBORI ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Jerry Lin		1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3,5-7,14,15 and 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3, 5-7, 14,15, and 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 11, 2005 has been entered.

### ***Status of the Claims***

Claims 3, 5-7, 14, 15, and 23 are pending.

Claims 3, 5-7, 14, 15, and 23 are rejected.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 5-7, 14, 15 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims include the limitation "a database that memorizes." A database is commonly known as large collection of data organized for rapid search and retrieval. It is unclear how a large collection is to memorize the shapes of cells.

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Claims 14 and 15 contain the phrase "coordinating and displaying" at line 22. It is unclear what "coordinating" means. Coordinating may be interpreted to mean to merge images together or to organize the images separately.

Claims 14 and 15 also contain the phrase "gene map that causes the expression phenomenon." It is unclear whether it is the gene or the gene map that causes the expression phenomenon.

Claim 23 contains the phrase "cylindrical plane." It is unclear how a two dimensional concept like a plane is to have a three dimensional shape like a cylinder.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of

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35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartenstein et al. (*Trends in Genetics*, 1995), in view of Hochman (US 6,096,510).

Hartenstein et al. is applied as in the office action dated January 13, 2004. Please see that office action for the teachings of Hartenstein et al.

Applicant has amended claim 3 to include simulating a change in the shape of a cell or site of a living organism caused by external stimulation artificially incurred according to a planned experiment. Hartenstein et al.'s method does not include situations involving artificially incurred external stimulation according to a planned experiment.

In addition Hartenstein et al. does not teach displaying the gene expression phenomenon for multiple species.

Regarding claim 3, Hochman does teach simulating and chronologically displaying a change in shape of a cell cause by external stimulation artificially incurred according to a planned experiment (column 5, lines 1-5; column 5, lines 43-52).

Regarding claim 5, Hochman's method applies to multiple species (column 18, lines 14-15) and the data sets may be compared (column 12, lines 12-22).

It would have been obvious to one of ordinary skill in the art to combine the references by Hartenstein et al. and Hochman. Hochman states, "Static and

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dynamic changes in the geometrical structure and/or intrinsic optical properties of the biological materials in response to the administration of a physiological challenge or test agent, are indicative and predictive of changes in the physiological state or health of the biological material. (Hochman, column 4, lines 15-21). Thus one of ordinary skill in the art would have been motivated to utilize a method that displays the geometrical structure of cells, such as Hartenstein et al.'s method, with data from cells treated with a variety of external stimulation by planned experiment, as in Hochman's method, in order to determine the physiological state or health of biological material.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartenstein et al., in view of Balaban (US 6,308,170 B1).

Hartenstein et al. is applied as above.

Although Hartenstein et al. does teach displaying expression data in color (page 57, lines 1-5), Hartenstein et al. does not teach mapping expression data along a time axis.

Balaban does teach displaying expression data along a time axis (column 8, lines 35-57). Balaban also teaches mapping the expression data of two or more experiments (cells) on coordination points along an axis (column 8, 24-34).

It would have been obvious to one of ordinary skill in the art to combine the teachings of Hartenstein et al. with Balaban to gain the advantage of an easy to use query system for a gene expression database (column 2, lines 22-25). Hartenstein et al.'s method includes a gene expression database. Given the

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large amounts of data in Hartenstein et al.'s database, one of ordinary skill in the art would have been motivated to create an easier to use query system. Thus one of ordinary skill in the art would have been motivated to combine the teachings of Balaban and Hartenstein et al.

### ***Comments***

In the applicant's remarks, submitted December 17, 2004, applicants argued that there was no motivation to combine the teachings of Hartenstein et al. and references regarding IntelligentBox. However, no rejection was made combining references regarding IntelligentBox and Hartenstein et al. The submitted arguments were not germane to the rejections stated in the previous office action or the instant office action.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Lin whose telephone number is (571) 272-2561. The examiner can normally be reached on 6:30-3:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel, Ph.D. can be reached on (571) 272-0718. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JL

*Marianne P. Allen*  
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4/1/05  
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